

REMARKS

Claims 1, 3, 5, 7, 9, 11-13, 26-32, 34-36 and 39-45 are pending in this application. By this Amendment, the specification and claims 1, 5, 12-13, 26, 28-29, 31-32 and 35 are amended, claim 8 is canceled without prejudice or disclaimer and new claims 43-45 are added.

The Office Action objects to the disclosure because of informalities. It is respectfully submitted that the above amendments to the specification obviate the grounds for objection. Withdrawal of the objection is respectfully requested.

The Office Action objects to the drawings under 37 C.F.R. §1.83(a) because the features of independent claim 28 are not shown in the drawings. It is respectfully submitted that at least FIG. 8 fully supports the features of independent claim 28 by showing two sealing layers (on left side and right side) and first and second buffer layers 211A, 211B.

The Office Action rejects claims 1, 3, 5, 7-9, 26-28, 30-31 and 39-41 under 35 U.S.C. §102(b) by newly-cited U.S. Patent Publication 2002/0036466 to Tanaka et al. (hereafter Tanaka). The Office Action also rejects claims 32, 36 and 42 under 35 U.S.C. §102(b) by U.S. Patent 6,514,111 to Ebihara et al. (hereafter Ebihara). Still further, the Office Action rejects claims 11-13, 29 and 34-35 under 35 U.S.C. §103(a) over Tanaka and Ebihara. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites a first substrate, a second substrate, and a sealing layer located between the first substrate and the second substrate, wherein the sealing layer has a thermal expansion coefficient of approximately $65 \times 10^{-7} \sim 80 \times 10^{-7} / ^\circ\text{C}$. Independent claim 1 also recites at least one of a buffer layer or a dielectric layer formed between the first substrate and

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the sealing layer, wherein the at least one of the buffer layer or the dielectric layer has the following composition: PbO at a ratio of 45% to 55%, B₂O₃ at a ratio of 10% to 20% and SiO₂ at a ratio of 15%-25%.

The applied references do not teach or suggest at least these features of independent claim 1, which includes features of previous dependent claim 8. More specifically, Tanaka does not teach or suggest the claimed sealing layer located between the first substrate and the second substrate, wherein the sealing layer has a thermal expansion coefficient of approximately $65 \times 10^{-7} \sim 80 \times 10^{-7} / ^\circ\text{C}$. The Office Action references Tanaka's partition wall 24 as corresponding to the claimed sealing layer. However, the partition wall 24 is not a sealing layer.

Further, when discussing features of previous dependent claim 8, the Office Action references Tanaka's Table 3, Example 23. However, the thermal expansion coefficient listed in Table 3 corresponds to a thermal expansion coefficient of a dielectric layer, such as the dielectric layer 13/23. Tanaka does not teach or suggest the thermal expansion coefficient of the sealing layer as recited in independent claim 1. Applicant also respectfully notes that the present specification describes thermal expansion coefficients in detail (e.g. to prevent cracks). The other applied references do not teach or suggest this missing feature of independent claim 1. Thus, independent claim 1 defines patentable subject matter.

Independent claim 26 recites a first substrate, a second substrate, and a sealing layer between the first substrate and the second substrate, wherein the sealing layer has a thermal expansion coefficient of approximately $65 \times 10^{-7} \sim 80 \times 10^{-7} / ^\circ\text{C}$. Independent claim 26 also recites at least one of a buffer layer or a dielectric layer formed between the first substrate and the sealing

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layer, wherein the at least one of the buffer layer or the dielectric layer has a thermal expansion coefficient of approximately $72 \times 10^{-7}/^{\circ}\text{C}$ to $85 \times 10^{-7}/^{\circ}\text{C}$.

For at least the reasons set forth above, the applied references do not teach or suggest at least these features of independent claim 26. That is, Tanaka (and the other applied references) do not teach or suggest the claimed sealing layer between the first and second substrate, wherein the sealing layer has a thermal expansion coefficient of approximately $65 \times 10^{-7} \sim 80 \times 10^{-7}/^{\circ}\text{C}$. Thus, independent claim 26 defines patentable subject matter.

Independent claim 32 recites a first substrate, a second substrate, a sealing layer between the first substrate and the second substrate, and at least one of a buffer layer or a dielectric layer provided on the first substrate and provided between the first substrate and the sealing layer, wherein the buffer layer has a thickness greater than $35\mu\text{m}$ and less than $39\mu\text{m}$ between the sealing layer and the first substrate.

The applied references do not teach or suggest all the features of independent claim 32. When discussing independent claim 32, the Office Action references Ebihara's col. 6, lines 19-22 as disclosing a buffer layer having a thickness of $35\mu\text{m}$. However, Ebihara is very clear that the thickness of the dielectric layer should be less than $35\mu\text{m}$ since it is undesirable to be over $35\mu\text{m}$. For example, Ebihara's col. 6, lines 5-11 states that a thickness of over $35\mu\text{m}$ leads to a sudden increase in cracking. Ebihara therefore teaches away from the claimed thickness. Ebihara has no teaching or suggestion for a buffer layer having a thickness greater than $35\mu\text{m}$ (and less than $39\mu\text{m}$), as recited in independent claim 32. Thus, independent claim 32 defines patentable subject matter.

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Accordingly, each of independent claims 1, 26 and 32 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

For example, dependent claim 43 recites that the sealing layer has a thermal expansion coefficient of approximately $65 \times 10^{-7} \sim 80 \times 10^{-7} / ^\circ\text{C}$. Ebihara does not teach or suggest these features relating to the thermal expansion coefficient of the sealing layer. The other applied references do not teach or suggest the missing features of dependent claim 43. Thus, dependent claim 43 defines patentable subject matter at least for this additional reason.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 3, 5, 7, 9, 11-13, 26-32, 34-36 and 39-45 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,

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concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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